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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

YANG, JIE

ART UNIT

PAPER NUMBER

1733

MAIL DATE

DELIVERY MODE

10/08/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/539,758	Applicant(s) ANTONISSEN ET AL.	
	Examiner JIE YANG	Art Unit 1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 July 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 9-19 and 21-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/1/2010 has been entered.

Status of the Claims

Claims 1 is amended; claims 9-19 and 21-31 are withdrawn as non-elected claims; and claims 1-8 and 20 remain for examination. Claim 1 is an independent claim.

Status of the previous rejections

The previous rejection of claims 1-8 and 20 under 35 U.S.C. 103(a) as being obvious over Yokoi et al (US 6,589,369, thereafter US'369) is withdrawn in view of the amendment filed on 7/1/2010. However, upon further consideration, a new ground(s) of rejection is made in following.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claims 1, 7, and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In the instant case, "BH2" in the instant claim 1 has no proper definition and the definition can neither be found in the instant specification. The Examiner notes that the Applicant explained bake hardening (BH2 value) in the "Declaration under 37 C.F.R. 1.132" filed on 7/30/2010 as: "BH2 values express the difference between the yield strength of a sample that has undergone controlled ageing and 2% pre-strain, and the yield strength of said same sample having undergone a controlled baking step (details of all the various steps are set out in the norm SEW094)". This definition is suggested to be added into the instant specification.

Regarding claims 7 and 8, which depend on claim 1, claim 7 recites the limitation "Al: between 8000ppm and 14000ppm" and claim 8 recites the limitation "Al: between 9000ppm and 13000ppm", which is not in the range of "Al: between 11200ppm and 15000ppm" as recited in the independent claim 1. There is insufficient antecedent basis for these limitations in the claims 7 and 8. Proper corrections are needed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 1-8 and 20 are rejected under 35 U.S.C. 103(a) as being obvious over Nomura et al (US 5,470,529, thereafter US'529) in view of Yokoi et al (US 6,589,369 B2, thereafter US'369).

Regarding claim 1, US'529 teaches a high tensile strength cold rolled steel sheet having improved ductility and hole expandability (Title and abstract of US'529). The composition comparison between the alloy of US'529 (Abstract, claims 1-45, and Col.6, line 34 to Col.9, line 53 of US'529) and that of the instant application is listed in the following table. All of the compositions disclosed by US'529 overlap the composition ranges of the instant claim, which is a prima facie case of obviousness. SEE MPEP 2144.05 I. It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the compositions of C, Mn, Al, Si, P, S, and optionally adding N, Ti, Nb, V, B, and balance with Fe as claimed in the instant claim because US'529 discloses the same utility throughout the disclosed ranges. More specifically, the composition of sample 2 of table 1; and the samples 13, 19, 21, 23-25 of table 2-1 of US'529 have the same essential elements C, Si, Mn, Al and Fe and the compositions of these essential elements are within the claimed composition ranges.

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Element	From instant Claim 1 (in wt%)	US'529(in wt%)	Overlapping range (in wt%)
C	0.13-0.26	0.05-0.3	0.13-0.26
Mn	1-2.2	0.05-4	1-2.2
Al	1.12-1.5	0.1-2	1.12-1.5
Si	0.2-0.6	0-2.5	0.2-0.6
P	0.04-0.1	≤ 0.1	0.04-0.1
S	≤ 0.012	≤ 0.1	≤ 0.012
N	≤ 0.02	≤ 0.01	≤ 0.01
Ti	≤ 0.1	Optional: 0.005-0.1	0.005-0.1
Nb	≤ 0.1	Optional: 0.005-0.1	0.005-0.1
V	≤ 0.1	Optional: 0.005-0.2	0.005-0.1
B	≤ 0.001	Trace amount	≤ 0.001
Fe	Balance	Balance	Balance

Still regarding claim 1, US'529 teaches that the structure of steel comprising at least 5Vol.% of retained austenite (claim 1 of US'529), which overlaps the 0-20Vol.% retained austenite as recited in the instant claim, but US'529 does not specify microstructures comprising 30-75Vol.% ferrite; 10-40Vol.% bainite, and 1-10Vol.% martensite as recited in the instant claim. US'369 teaches high fatigue strength steel (Title, abstract of US'369) for cold rolling application (Col.4, line 59 to Col.5, line 3 and claims 10, 13, and 17 of US'369). The composition comparison between the alloy of US'369 and the instant application is listed in the following table. All of the major compositions disclosed by US'369 overlap the composition ranges of the instant claim. US'369 teaches the microstructure of US'369's alloy having ferrite as the main phase and

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controlling forming retained austenite, bainite and martensite phases (tables 2, 4 and Col.13, line 49 to Col.14, line 14 of US'369). The different portions of phases taught by US'369, for example samples C-1 to C-6 in table 2 and samples A-1 to A-9 in table 4 of US'369 overlap the claimed 30-75Vol% ferrite, 10-40Vol% bainite, 0-20Vol% retained austenite, and 0-10Vol% Martensite as recited in the instant claim. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the proper heat treatment to obtain the desired microstructure as demonstrated by US'369 in the process of manufacturing the steel of US'529 because US'369 teaches that the compound structure steel sheet has a excellent in fatigue resistance and burring workability (Col.2, lines 56-63 of US'369)

Element	From instant Claim 1 (in wt%)	US'369(in wt%)	Overlapping range (in wt%)
C	0.13-0.26	0.01-0.3	0.13-0.26
Mn	1-2.2	0.05-3	1-2.2
Al	1.12-1.5	0.005-1	--
Si	0.2-0.6	0.01-2	0.2-0.6
P	0.04-0.1	≤ 0.1	0.04-0.1
S	≤ 0.012	≤ 0.01	≤ 0.01
N	≤ 0.02	Trace amount	Trace amount
Ti	≤ 0.1	Optional: 0.05-0.5	0.05-0.1
Nb	≤ 0.1	Optional: 0.01-0.5	0.01-0.1
V	≤ 0.1	Optional: 0.02-0.2	0.02-0.1
B	≤ 0.001	0.0002-0.002	0.0002-0.001
Fe	Balance	Balance	Balance

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Regarding the limitation of bake hardening BH2 greater than 40MPa in both longitudinal and transversal direction of the instant claim 1, which is recognized as a property of the TRIP steel, which depends on the material's composition and microstructures of heat treatment, as discussed above, US'529 in view of US'369 teaches the similar TRIP cold rolled steel (Col.1, line 6 to Col.4, line 41 of US'529) with the similar alloy compositions and the similar microstructures for the same cold-rolled sheet application as recited in the instant invention, therefore, the similar bake hardening BH2 greater than 40MPa in both longitudinal and transversal direction as recited in the instant claim would have been highly expected for the steel of US'529 in view of US'369. MPEP 2112.01.

Regarding claims 2-8, US'529 teaches carbon composition from 0.05 to 0.3wt%, which overlaps 0.13-0.19wt% C (claim 2); 0.135-0.19wt% C (claim 3); 0.14-0.19wt% C (claim 4); 0.17-0.23wt% C (claim 5); 0.20-0.26wt% C (claim 6). The composition ranges taught by US'529 also overlap all the composition ranges as recited in the instant claim 7. US'529 teaches adding 0.1 to 2wt% Al, which overlaps the 0.9 to 1.3wt%Al as recited in the instant claim 8.

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Regarding claim 20, the limitation of uncoated, electro-galvanized or hot dip galvanized are recognized as intended uses for the cold rolled steel sheet, which does not add patentable weight for the instant alloy composition claims. MPEP 2111.02 II.

Response to Arguments

Applicant's arguments with respect to claims 1-8 and 20 have been considered but are moot in view of the new ground(s) of rejection.

Regarding the "Declaration under 37 C.F.R. 1.132" as filed on 7/30/2010, it has been considered but is insufficient to overcome the rejections of claims 1-8 and 20 because the newly cited prior art US'529 teaches steel alloy with Al composition within the claimed Al range. More specifically, the composition of sample 2 of table 1; and the samples 13, 19, 21, 23-25 of table 2-1 of US'529 have the same essential elements C, Si, Mn, Al and Fe and the compositions of these essential elements are within the claimed composition ranges.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jie Yang whose telephone number is 571-2701884. The examiner can normally be reached on IFP.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-2721244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JY

/Jie Yang/
Patent Examiner, Art Unit 1733